

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A method comprising:

parsing a data processing statement;  
identifying table field or fields referenced in said data processing statement;  
for each identified table field, determining whether the table field is a looked-up field;  
identifying a basis table of which non-looked up ones of said identified table field or fields are members;  
identifying one or more target tables from which said looked-up one or ones of said identified table field or fields are to be looked up;  
generating a SQL statement, including with said generated SQL statement field or fields to be selected from said basis table and a FROM clause enumerating said basis table, and if the data processing statement was determined to contain one or more fields to be looked up from one or more target tables, further including among said field or fields to be selected said one or more fields to be looked up from said one or more target tables, and one or more JOIN clauses respectively joining said basis table and said one or more target tables, and one or more corresponding ON clauses respectively specifying one or more corresponding conditions on which rows of said basis and said one or more target tables are to be joined, each of said one or more conditions comprising a corresponding look-up field.

Claim 2 (original): The method of claim 1, wherein said determining of whether a table field is a looked-up field comprises determining whether the table field is a multi-part table field including at least a first part corresponding to a look-up field, and a second part corresponding to a field to be looked up, concatenated with said first part in a predetermined manner.

Claim 3 (original): The method of claim 2, wherein said determining of whether a table field is a looked-up field further comprises upon determining that the table field is a multi-part table field, determining whether the second part is a look-up field, with a third part corresponding to a looked up field concatenated with said second part in a predetermined manner.

Claim 4 (original): The method of claim 2, wherein said second part corresponding to a field to be looked up, is concatenated with said first part corresponding to a look-up field, employing one or more predetermined special characters.

Claim 5 (original): The method of claim 4, wherein said one or more predetermined special characters comprises at least a selected one of “.”, “:”, “~”, “!”, “@”, “#”, “\$”, “%”, “^”, “&”, “\*”, “-“, “+”, “=”, “?”, “<” and “>”.

Claim 6 (original): The method of claim 1, wherein said JOIN clause is an OUTER JOIN clause.

Claim 7 (original): The method of claim 1, wherein said JOIN clause is an INNER JOIN clause.

Claim 8 (original): The method of claim 1, wherein said SQL statement is a selected one of a SELECT, an INSERT, an UPDATE and a DELETE statement.

Claim 9 (previously presented): A method comprising:

presenting a first plurality of fields of a first table for selection for use in a data processing operation;

receiving a selection of a first field that is a member of said first fields;

determining whether said selected first field is a first designated look-up field for

looking up first one or more of a second plurality of fields of a second table;

presenting said second plurality of fields for selection for use in said data processing operation, if it is determined that said selected first field is a first designated

look-up field for looking up first one or more of said second plurality of fields of said second table.

Claim 10 (previously presented): The method of claim 9, wherein each of said second plurality of fields is presented in a multi-part form, including a first part corresponding to said first look-up field, and a second part corresponding to one of a second one or more fields to be looked up, and where said second part is concatenated with said first part in a predetermined manner.

Claim 11 (previously presented): The method of claim 9, wherein said method further comprises

receiving a selection of a second field that is a member of said second fields;  
determining whether said selected second field is a second designated look-up field for looking up a second one or more of a third plurality of fields of a third table; and  
presenting said third plurality of fields for selection if it is determined that said selected second field is a second designated look-up field for looking up a second one or more of said third plurality of fields of said third table.

Claim 12 (original): The method of claim 11, wherein  
each of said second plurality of fields is presented in a multi-part form, including a first part, said first look-up field, and a second part, a corresponding one of said first one or more fields to be looked up, concatenated with said first part in a predetermined manner; and  
each of said third plurality of fields is presented in a multi-part form, including said first and second parts, and a third part, a corresponding one of said second one or more fields to be looked up, concatenated with said second part in a predetermined manner.

Claim 13 (original): The method of claim 10, wherein said second part, a corresponding one of said first one or more fields to be looked up, is concatenated with said first part, said first look-up field, employing one or more predetermined special characters.

Claim 14 (original): The method of claim 13, wherein said one or more predetermined special characters comprises at least a selected one of “.”, “:”, “~”, “!”, “@”, “#”, “\$”, “%”, “^”, “&”, “\*”, “-”, “+”, “=”, “?”, “<” and “>”.

Claim 15 (original): The method of claim 9, wherein the method further comprises generating a SQL statement, including with said generated SQL statement field or fields to be selected from said first table and a FROM clause enumerating said first table, and if one or more of said fields to be looked up from said second table are also selected, further including among said field or fields to be selected said one or more fields to be looked up from said second table, and a JOIN clause joining said second table to said first table, and an ON clause specifying a condition on which rows of said second and said first tables are to be joined, said condition comprising said look-up field.

Claim 16 (original): The method of claim 15, wherein said JOIN clause is an OUTER JOIN clause.

Claim 17 (original): The method of claim 15, wherein said JOIN clause is an INNER JOIN clause.

Claim 18 (original): The method of claim 15, wherein said SQL statement is a selected one of a SELECT, an INSERT, an UPDATE and a DELETE statement.

Claim 19 (currently amended): The method of claim 9, wherein the method further comprises specifying said first plurality of fields of said first table; and designating one or more of said specified first fields as look-up fields; and specifying target tables for said designated look-up fields.

Claim 20 (original): An apparatus comprising:  
storage medium having stored therein programming instructions, when executed, operate the apparatus to  
parse a data processing statement,

identify table field or fields referenced in said data processing statement,  
determine, for each identified table field, whether the table field is a looked-up field,  
identify a basis table of which non-looked up ones of said identified table field or fields  
are members,  
identify one or more target tables from which said looked-up one or ones of said  
identified table field or fields are to be looked up, and  
generate a SQL statement, including with said generated SQL statement field or fields  
to be selected from said basis table and a FROM clause enumerating said basis  
table, and if the data processing statement was determined to contain one or  
more fields to be looked up from one or more target tables, further including  
among said field or fields to be selected said one or more fields to be looked up  
from said one or more target tables, and one or more JOIN clauses respectively  
joining said basis table and said one or more target tables, and one or more  
corresponding ON clauses respectively specifying one or more corresponding  
conditions on which rows of said basis and said one or more target tables are to  
be joined, each of said one or more conditions comprising a corresponding look-  
up field; and

one or more processors coupled to the storage medium to execute the programming  
instructions.

Claim 21 (original): The apparatus of claim 20, wherein said programming instructions, when  
executed, enable the apparatus to determine whether a table field is a looked-up field by  
determining whether the table field is a multi-part table field including at least a first part  
corresponding to a look-up field, and a second part corresponding to a field to be looked up,  
concatenated with said first part in a predetermined manner.

Claim 22 (original): The apparatus of claim 21, wherein said programming instructions, when  
executed, enable the apparatus to, upon determining that the table field is a multi-part table  
field, determine whether the second part is also a look-up field, with a third part corresponding  
to a looked up field concatenated with said second part in a predetermined manner.

Claim 23 (original): The apparatus of claim 22, wherein said second part corresponding to a field to be looked up, is concatenated with said first part corresponding to a look-up field, employing one or more predetermined special characters.

Claim 24 (original): The apparatus of claim 23, wherein said one or more predetermined special characters comprises at least a selected one of “.”, “:”, “~”, “!”, “@”, “#”, “\$”, “%”, “^”, “&”, “\*”, “-”, “+”, “=”, “?”, “<” and “>”.

Claim 25 (original): The apparatus of claim 20, wherein said JOIN clause is an OUTER JOIN clause.

Claim 26 (original): The apparatus of claim 20, wherein said JOIN clause is an INNER JOIN clause.

Claim 27 (original): The apparatus of claim 20, wherein said SQL statement is a selected one of a SELECT, an INSERT, an UPDATE and a DELETE statement.

Claim 28 (previously presented): An apparatus comprising:  
storage medium having stored therein a plurality of programming instructions, when executed, operate the apparatus to

present a first plurality of fields of a first table for selection for use in a data processing operation,

receive a selection of a first field that is a member of said first fields,

determine whether said selected first field is a first designated look-up field for looking up first one or more of a second plurality of fields of a second table,

present said second plurality of fields for selection for use in said data processing operation, if it is determined that said selected first field is a first designated look-up field for looking up first one or more of said second plurality of fields of said second table; and

at least one processor coupled to the storage medium to execute the programming instructions.

Claim 29 (previously presented): The apparatus of claim 28, wherein said programming instructions, when executed, operate the apparatus to present each of said second plurality of fields in a multi-part form, including a first part corresponding to said first look-up field, and a second part corresponding to one of said first one or more fields to be looked up, where said second part is concatenated with said first part in a predetermined manner.

Claim 30 (previously presented): The apparatus of claim 29, wherein said programming instructions, when executed, further operate the apparatus to  
receive a selection of a second field that is a member of said second fields;  
determine whether said selected second field is a second designated look-up field for  
looking up a second one or more of a third plurality of fields of a third table; and  
present said third plurality of fields for selection if it is determined that said selected  
second field is a second designated look-up field for looking up a second one or  
more of said third plurality of fields of said third table.

Claim 31 (original): The apparatus of claim 30, wherein said programming instructions, when executed, operate the apparatus to present each of said second plurality of fields is presented in a multi-part form, including a first part, said first look-up field, and a second part, a corresponding one of said first one or more fields to be looked up, concatenated with said first part in a predetermined manner; and  
each of said third plurality of fields is presented in a multi-part form, including said first and second parts, and a third part, a corresponding one of said second one or more fields to be looked up, concatenated with said second part in a predetermined manner.

Claim 32 (original): The apparatus of claim 29, wherein said second part, a corresponding one of said first one or more fields to be looked up, is concatenated with said first part, said look-up field, employing one or more predetermined special characters.

Claim 33 (original): The apparatus of claim 32, wherein said one or more predetermined special characters comprises at least a selected one of “.”, “:”, “~”, “!”, “@”, “#”, “\$”, “%”, “^”, “&”, “\*”, “-”, “+”, “=”, “?”, “<” and “>”.

Claim 34 (original): The apparatus of claim 28, wherein the programming instructions further operate the apparatus to generate a SQL statement, including with said generated SQL statement field or fields to be selected from said first table and a FROM clause enumerating said first table, and if one or more of said fields to be looked up from said second table are also selected, further including among said field or fields to be selected said one or more fields to be looked up from said second table, and a JOIN clause joining said second table to said first table, and an ON clause specifying a condition on which rows of said second and said first tables are to be joined, said condition comprising said look-up field.

Claim 35 (original): The apparatus of claim 28, wherein said JOIN clause is an OUTER JOIN clause.

Claim 36 (original): The apparatus of claim 28, wherein said JOIN clause is an INNER JOIN clause.

Claim 37 (original): The apparatus of claim 28, wherein said SQL statement is a selected one of a SELECT, an INSERT, an UPDATE and a DELETE statement.

Claim 38 (original): The apparatus of claim 28, wherein the programming instructions, when executed, further operate the apparatus to

- specify said first plurality of fields of said first table,
- designate one or more of said specified first fields as look-up fields, and
- specify target tables for said designated look-up fields.